

### **REMARKS**

In the Office action dated August 10, 2006, claims 58-75 stand rejected. Claims 58-64 and 67-75 stand rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,969,052 issued to Mumick et al. ("Mumick"). Claim 65 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Mumick in view of U.S. Patent No. 5,147,345 issued to Young et al. ("Young"). Claim 66 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Mumick in view of U.S. Patent No. 5,571,080 issued to Jensen ("Jensen"). Claims 58-69 and 73-75 stand rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 3,900,030 issued to Bashan ("Bashan") in view of U.S. Patent No. 5,609,586 issued to Zadini et al. ("Zadini"). Claims 70-72 stand rejected under 35 U.S.C. § 103(a) as obvious over Bashan in view of Zadini as applied to claim 58, in view of Mumick. Claims 58-65, 67-69, 71 and 73-75 stand rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over European Patent Application EP 0 301 753 ("EP '753"). Claim 66 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '753 in view of Jensen. Claims 70 and 72 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '753 in view of Mumick.

In view of the following remarks, Applicants respectfully request reconsideration and withdrawal of all grounds of rejection.

#### ***1. Rejection of Claims 58-64 and 67-75 under 35 U.S.C. §§ 102(b) or 103(a) – Mumick***

Claims 58-64 and 67-75 have been rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Mumick. For a claim to be anticipated under 35 U.S.C. § 102(b), the reference must disclose each and every limitation in

the claim. Applicants respectfully submit that Mumick does not disclose every claim element of the claimed invention.

Regarding independent claim 58, Applicants' claimed invention includes, in part, a material for controlling a flow of water to maintain a desired temperature of an object, in which gel particles that expand when fluid in contact with the gel particles is below a phase transition temperature of the gel particles to regulate the temperature of an object.

Briefly, the Office action states that "it is not seen that the binder of Mumick would have performed differently than the gel particles of the present invention in terms of regulating a flow of water to maintain a desired temperature of an object and decreasing heat loss." (§4).

Applicants respectfully submit that Mumick does not disclose, at least, gel particles that expand when fluid in contact with the gel particles is below a phase transition temperature of the gel particles to regulate the temperature of an object. Rather, Mumick teaches a temperature responsive polymer that *dissolves* or *disperses* in an aqueous solution when the temperature is below the cloud point. (See Mumick, Col. 4, lines 27-39).

For the rejection under 35 U.S.C. § 103(a) to be proper, the reference alone or in combination with another reference must teach or suggest all of the claim limitations.

Applicants respectfully submit that Mumick does not suggest every claim element of the claimed invention. "There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." M.P.E.P. §2143.01 (quoting *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998)). Applicants respectfully submit that the problem to be solved in Mumick is different from the problem to be solved in the present invention. In contrast

to the flow control and temperature regulating properties of the present invention, which require the gel particles to expand below a phase transition temperature to regulate the temperature of an object, the problem to be solved in Mumick is the need for binder materials and thermoformable articles that readily disperse in cold water. (See Mumick, Col. 2, ll. 57-64). Further, the materials of Mumick are unable to control the flow of water because they dissolve and disperse below the cloud temperature. Therefore, Applicants respectfully submit that Mumick lacks the suggestion and motivation for one of ordinary skill in the art to modify Mumick to obtain the present invention.

Accordingly, Applicants respectfully submit that independent claim 58 is in condition for allowance. Claims 59-64 and 67-75 depend, either directly or indirectly, from claim 58. For the above-mentioned reasons regarding claim 58, Applicants submit that these claims are also in condition for allowance.

## ***2. Rejection of Claim 65 under 35 U.S.C. § 103(a) – Mumick in view of Young***

Claim 65 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Mumick in view of Young. For the rejection under 35 U.S.C. § 103(a) to be proper, the reference alone or in combination with another reference must teach or suggest all of the claim limitations.

Applicants respectfully submit that neither Mumick nor Young, either alone or in combination, teach or suggest every claim element of the claimed invention.

Regarding independent claim 58, Applicants' claimed invention includes, in part, gel particles that expand when fluid in contact with the gel particles is below a phase transition temperature of the gel particles to regulate the temperature of an object.

Applicants respectfully submit that the problems to be solved in Mumick and Young are different from the problem to be solved in the present invention. With respect to Mumick, because claim 65 depends directly from claim 58, Applicants reiterate the above-mentioned reasons regarding lack of suggestion and motivation in claim 58. Likewise, in contrast to the temperature regulating properties of the present invention, which require the gel particles to expand below a phase transition temperature to regulate the temperature of an object, the problem to be solved in Young is the need for mechanisms to efficiently move fluid within an absorbent structure to other unused or relatively dry parts of the absorbent structure. (See Young, Col. 1, ll. 49-63). Young is silent on *any* temperature dependent characteristics as claimed in the claimed invention.

Accordingly, Applicants respectfully submit that neither Mumick nor Young teaches or suggests gel particles that expand when fluid in contact with the gel particles is below a phase transition temperature of the gel particles to regulate the temperature of an object. Applicants thus respectfully submit that claim 65 is in condition for allowance.

### ***3. Rejection of Claim 66 under 35 U.S.C. § 103(a) – Mumick in view of Jensen***

Claim 66 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Mumick in view of Jensen. For the rejection under 35 U.S.C. § 103(a) to be proper, the reference alone or in combination with another reference must teach or suggest all of the claim limitations.

Applicants respectfully submit that neither Mumick nor Jensen, either alone or in combination, teach or suggest every claim element of the claimed invention.

Regarding independent claim 58, Applicants' claimed invention includes, in part, gel particles that expand when fluid in contact with the gel particles is below a phase transition temperature of the gel particles to regulate the temperature of an object.

Applicants respectfully submit that the problems to be solved in Mumick and Jensen are different from the problem to be solved in the present invention. With respect to Mumick, because claim 66 depends directly from claim 58, Applicants reiterate the above-mentioned reasons regarding lack of suggestion and motivation in claim 58. Likewise, in contrast to the temperature regulating properties of the present invention, which require the gel particles to expand below a phase transition temperature to regulate the temperature of an object, the problem to be solved in Jensen is the need for an adhesive surgical dressing with high flexibility, high cohesion, and high liquid-absorbing capability. (See Jensen, Col. 1, ll. 55-57). Jensen is silent on *any* temperature dependent characteristics of the taught adhesive surgical dressing.

Accordingly, Applicants respectfully submit that neither Mumick nor Jensen teaches or suggests gel particles that expand when fluid in contact with the gel particles is below a phase transition temperature of the gel particles to regulate the temperature of an object. Applicants thus respectfully submit that claim 66 is in condition for allowance.

***4. Rejection of Claims 58-69 and 73-75 under 35 U.S.C. § 103(a) – Bashan in view of Zadini***

Claims 58-69 and 73-75 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bashan in view of Zadini. For the rejection under 35 U.S.C. § 103(a) to be proper, the reference alone or in combination with another reference must teach or suggest all of the claim limitations. Applicants respectfully submit that neither Bashan nor Zadini, either alone or in combination, teach or suggest every claim element of the claimed invention.

Regarding independent claim 58, Applicants' claimed invention includes, in part, gel particles that expand when fluid in contact with the gel particles is below a phase transition temperature of the gel particles to regulate the temperature of an object.

Briefly, the Office action states that "Bashan does not specifically disclose the gel particles that expand when a temperature of a fluid in contact with the gel particles is below a phase transition temperature of the gel particles and that contract when the temperature of the fluid in contact with the gel particles is above the phase transition temperature of the gel particles. However, ... it is not seen that the tampon would have performed differently than the material of the present in term [sic] of expanding and contracting in response to the temperature of the fluid to which the gel particles are exposed." (§7).

Applicants agree with the Examiner with respect to Bashan at least not disclosing gel particles that expand when fluid in contact with the gel particles is below a phase transition temperature of the gel particles. Likewise, Zadini at least does not disclose gel particles that expand when fluid in contact with the gel particles is below a phase transition temperature of the gel particles.

Applicants respectfully submit that the problems to be solved in Bashan and Zadini are different from the problem to be solved in the present invention. In contrast to the temperature regulating properties of the present invention, which require the gel particles to expand below a phase transition temperature to regulate the temperature of an object, the problem to be solved in Bashan is the need to provide tampons with swellable polymers that act to plug off flow through the tampon once optimal loading has occurred, to prevent menstrual fluid from leaking. (See Bashan, Col. 1, ll. 22-25, 43-45). Likewise, in contrast to the temperature regulating properties

of the present invention, which require the gel particles to expand below a phase transition temperature to regulate the temperature of an object, the problem to be solved in Zadini is the need for an intravaginal expandable member to prevent the leakage or exit of bodily fluids. (See Zadini, Col. 1, ll. 8-9, Col. 4, ll. 20-23). In addition, Bashan is silent on *any* temperature dependent characteristics of the taught water absorbent structures. Zadini is also silent on *any* temperature dependent characteristics of the taught intravaginal expandable member.

Accordingly, Applicants respectfully submit that neither Bashan nor Zadini teaches or suggests gel particles that expand when fluid in contact with the gel particles is below a phase transition temperature of the gel particles to regulate the temperature of an object. Applicants thus respectfully submit that claim 58 is in condition for allowance.

Claims 59-69 and 73-75 depend, either directly or indirectly, from claim 58. For the above-mentioned reasons regarding claim 58, Applicants submit that these claims are also in condition for allowance.

***5. Rejection of Claims 70-72 under 35 U.S.C. § 103(a) – Bashan and Zadini in view of Mumick***

Claims 70-72 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bashan and Zadini in view of Mumick. Claims 70-72 depend, either directly or indirectly, from claim 58. For the above-mentioned reasons regarding claim 58, Applicants submit that these claims are also in condition for allowance.

**6. Rejection of Claims 58-65, 67-69, 71 and 73-75 under 35 U.S.C. §§ 102(b) or 103(a) – EP ‘753**

Claims 58-65, 67-69, 71 and 73-75 have been rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over EP ‘753. For a claim to be anticipated under 35 U.S.C. § 102(b), the reference must disclose each and every limitation in the claim. Applicants respectfully submit that EP ‘753 does not disclose every claim element of the claimed invention.

Regarding independent claim 58, Applicants’ claimed invention includes, in part, gel particles that expand when fluid in contact with the gel particles is below a phase transition temperature of the gel particles to regulate the temperature of an object.

Briefly, the Office action states that “EP’753 does not specifically disclose the gel particles that expand when a temperature of a fluid in contact with the gel particles is below a phase transition temperature of the gel particles. However, it appears that EP’753 uses the open cell foam containing hydrogel particles as Applicants, therefore, it is not seen that the tampon would have performed differently than the material of the present invention in term [sic] of expanding and contracting in response to the temperature of the fluid to which the gel particles are exposed.” (¶9).

Applicants agree with the Examiner in that EP ‘753 at least does not disclose gel particles that expand when fluid in contact with the gel particles is below a phase transition temperature of the gel particles. In addition, EP ‘753 is silent on *any* temperature dependent characteristics of the taught water absorbent structures.



For the rejection under 35 U.S.C. § 103(a) to be proper, the reference alone or in combination with another reference must teach or suggest all of the claim limitations.

Applicants respectfully submit that EP '753 does not disclose or suggest every claim element of the claimed invention. Applicants respectfully submit that the problem to be solved in EP '753 is different from the problem to be solved in the present invention. In contrast to the temperature regulating properties of the present invention, which require the gel particles to expand below a phase transition temperature to regulate the temperature of an object, the problem to be solved in EP '753 is the need to prevent swollen particles to become trapped in the pores of the foam, because "the escape of such particles from the dressing is highly undesirable since it could give rise to cross-infection." (See EP '753, Col. 1, ll. 38-40, 47-49). Therefore, Applicants respectfully submit that EP '753 lacks the suggestion and motivation for one of ordinary skill in the art to modify EP '753 to obtain the present invention.

Applicants thus respectfully submit that independent claim 58 is in condition for allowance. Claims 59-65, 67-69, 71 and 73-75 depend, either directly or indirectly, from claim 58. For the above-mentioned reasons regarding claim 58, Applicants submit that these claims are also in condition for allowance.

***7. Rejection of Claim 66 under 35 U.S.C. § 103(a) – EP '753 in view of Jensen***

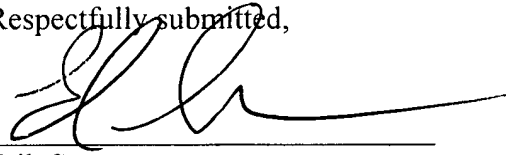
Claim 66 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '753 in view of Jensen. Claim 66 depends directly from claim 58. For the above-mentioned reasons regarding claim 58, Applicants submit that this claim is also in condition for allowance.

***8. Rejection of Claims 70 and 72 under 35 U.S.C. § 103(a) – EP ‘753 in view of Mumick***

Claims 70 and 72 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP ‘753 in view of Mumick. Claims 70 and 72 depend, either directly or indirectly, from claim 58. For the above-mentioned reasons regarding claim 58, Applicants submit that these claims are also in condition for allowance.

Applicants respectfully request consideration and allowance of claims 58-75.

Respectfully submitted,



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